

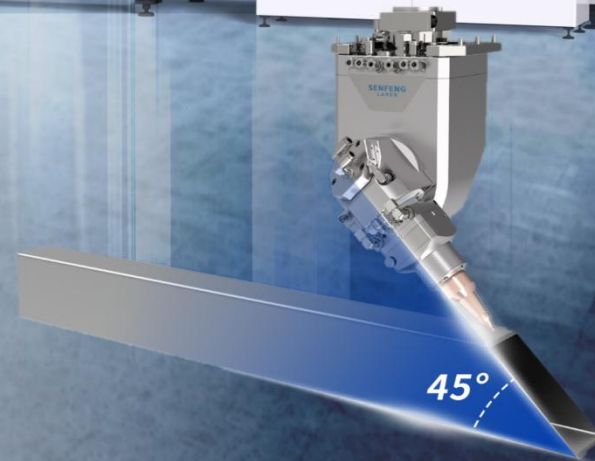


SENFENG

Cutting | Cladding | Cleaning | Welding | Bending | Automation

SF6038GT

Technical Solutions



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I. Product introduction

SF6038GT

Metal tube laser cutter



- SF60GT Laser bevel tube laser cutter has superior performance. which can realize the bevel cutting of the pipe within the range of $\pm 45^\circ$.
- The cutting head is dedicated for three-dimensional pipe cutting with automatic focusing function.
- The automatic bevel laser pipe cutting machine can cut conventional pipes such as round pipes and square pipes, as well as angle steel, channel steel and other profiles.

II. Technical Parameter

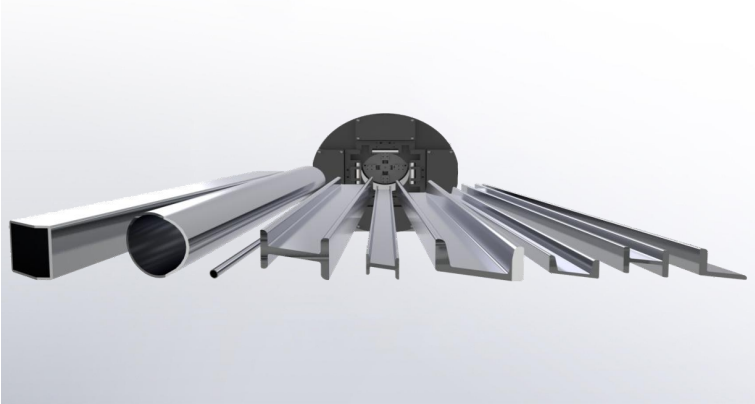
Item	Parameter				
	1500W	2000W	3000W	4000W	6000W
Pipe Length	500~6000mm				
Pipe Diameter	Φ20~Φ380mm				
Z-axis Travel	280mm				
X/Yaxis Positioning Accuracy	±0.05mm				
X/Yaxis Repeated Positioning	±0.02mm				
Maximum Speed	60m/min				
Chuck Maximum speed	50r/min				
Maximum Acceleration	0.6G				
Swing angle of the cutting head	±45°				
Table Maximum Load(KG)	500KG				
Power parameters	Three-phase AC380V 50Hz				
Protection Level of Total Power Supply	IP54				

III. Configuration

NAME	NO.	BRAND
FiberLaser	1 set	Raycus
Laser Head	1 set	SENFENG
Transmission	4 set	LAPPING/SENFENG
Machine Bed Accessories	1 set	SENFENG
Motor Reducer	4set	MOTOREDUCER
Electrical and Pneumatic	1 set	SCHNEIDER/SMC/AIRTAC
Server Motor and Driver	5set	PANASONIC
Water Cooling	1 set	HANLI
Control System	1 set	FSCUT 5000B

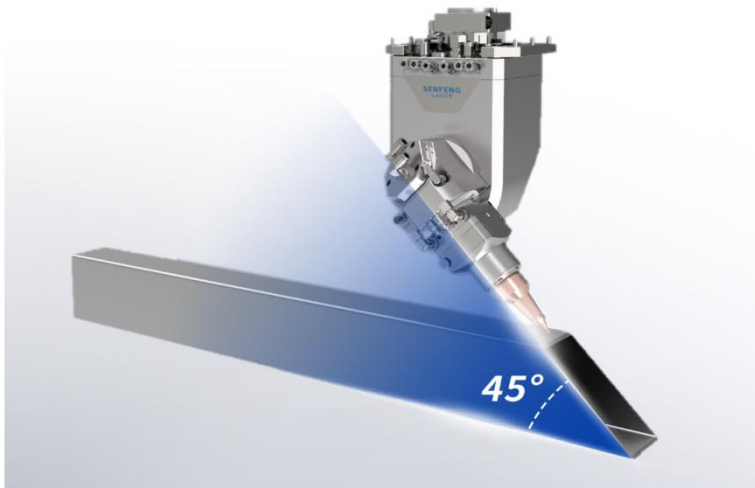
IV. Main Features

Excellent tube processing performance



- Dimension range: Circular tube diameter $\phi 20\sim\phi 380\text{mm}$;
- circular tube, square tube, rectangular tube, oval tube, angle steel tube, channel steel tube, H-shape steel tube, Γ - shape steel tube.
- Single tube bearing: single tube bearing is up to 500kg

$\pm 45^\circ$ Beveling cutting



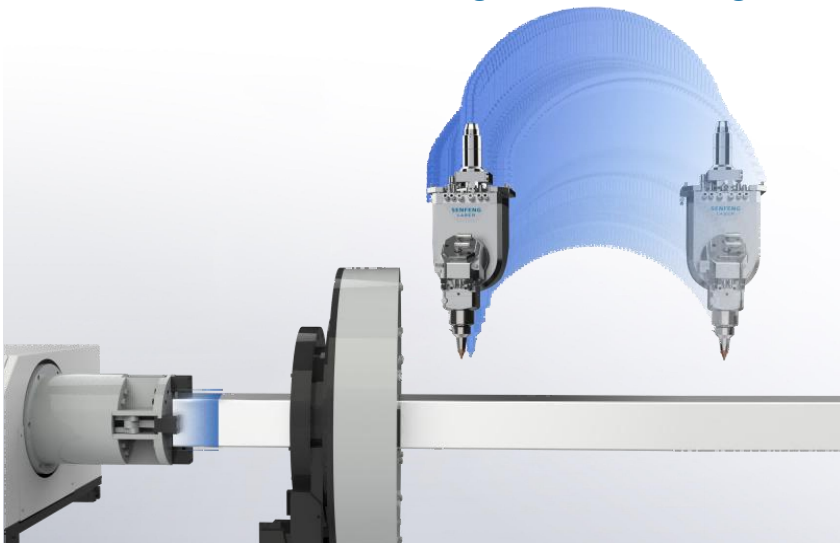
- Carbon steel tube/plate, 3D five-axis laser cutting head, $\pm 45^\circ$
- The bevel and slope are consistent as a whole, and the welding fit is much higher.

Automated system, higher efficiency (Optional unit)



- A bundle of tubes, intelligent tube distribution, tube loading and unloading, and the loading bearing is 3000KG;
- Automatic sorting of processed products and waste, a lower labor costs.

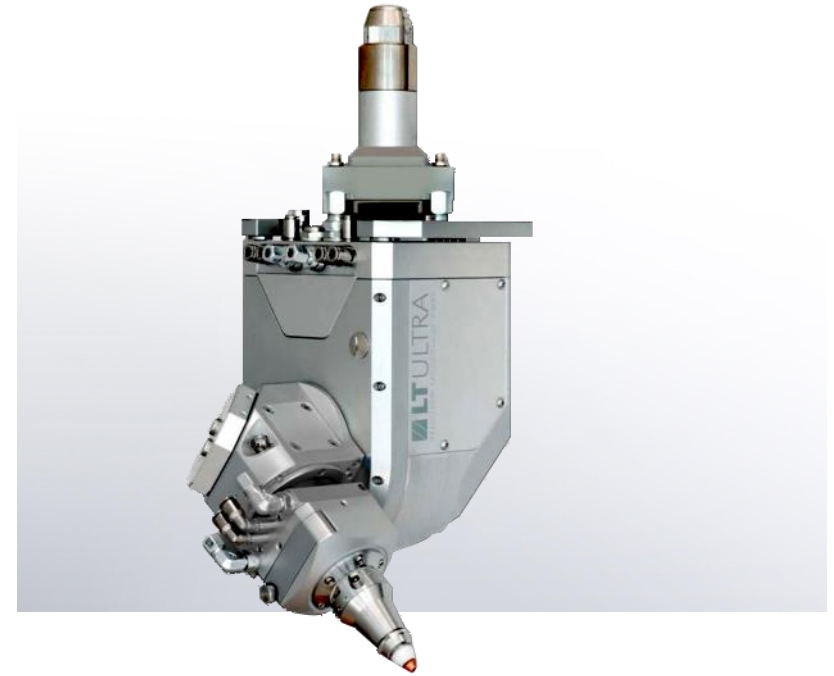
Automatic avoidance·a higher tube-using efficiency



- Automatic avoidance of laser cutting head/chuck avoidance, making ultra-short tailing possible.
- Intelligent pneumatic chuck jaw for a higher clamping force; No loosening or slipping problems for carrying heavy pipes; Feeding becomes more stable and cutting becomes more precise.

3D laser cutting head

- Multiple protective lenses, which can effectively protect the collimating focusing lens
- Automatic focusing, reducing human intervention
- Highly dust-proof, dust-proof grade of IP65, patented cover plate for mirror base protection, dust-proof at all angles.
- High speed cutting



Raycus Laser Device



- 25nm fiber core quasi-single mode output
- 50nm fiber core quasi-single mode output
- Electro-optical efficiency up to 35%
- Multi-level security and a protection against high-reflective damage
- The power monitoring accuracy is increased to 3%

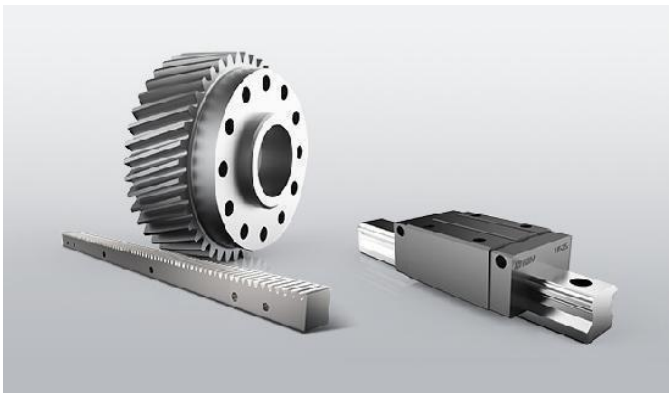
Professional Tube cutting Control System



SF6038T equipped with FSCUT5000B numerical control system is developed specifically for pipe processing control system. It supports high-precision and high-efficiency cutting of square tubes, round tubes, racetrack-shaped and oval-shaped stretching tubes, angle steel, channel steel, I-beam and other special-shaped steels. The adaptation software is TubePro special pipe cutting software and Tubest nesting software, and its performance characteristics are as follows:

- The utility model has the functions of automatic centering, supporting the real-time deviation compensation of the pipe center, reducing the requirement for the clamping of the pipe material, and greatly improving the piercing precision
- The automatic centering function supports real-time deviation compensation of the tube core, reduces the clamping requirements for the tube, and greatly improves the perforation accuracy.
- Support setting a separate corner process to improve the cutting quality of pipe corners
- Support fast frog leap, intelligent judgment of elevation on the table, shorten the time of air movement, improve cutting efficiency;

Transmission System



- High precision, long life, can provide rigorous support for quenching helical gears and grinding helical gears, so that the load drive structure is compact, can effectively reduce the driving torque.

TubePro specialized tube cutting software + Tubest nesting software



The SF6038GT laser cutter for bevelling tubes is equipped with the FSCUT5000A, a control system for tube processing. The laser cutter supports high precision and efficiency cutting of stretching tubes such as square tube, circular tube, runway shape tube and oval tube, as well as special-shaped steels, such as angle steel, channel steel, and Γ -shaped steel. The laser cutter is equipped with a specialized tube cutting software of TubePro and a nesting software of Tubest, which have following features:

- Support the real-time deviation compensation of tube core, reduce the clamping requirements for tubes, and greatly improve the perforation accuracy;
- Support cutting of special-shaped steels, such as angle steel, channel steel, Γ -shaped steel and H-shaped steel.
- With a drawing function, which supports fast map and batch import of standard parts;
- Support the setting of individual corner cutting procedures to improve the cutting quality of tube corners;
- Support automatic tube loading and unloading as well as circular processing. Standard automatic feeding movement is also supported;
- Support fast leapfrog and intelligent judgment of lifting height for worktable changing. Shorten the time of idle movement in an all-round way, and improve the cutting efficiency;
- The track accuracy is 0.02mm, the positioning accuracy is 0.001mm, and the repeated positioning accuracy is 0.003mm;
- Support real-time feedback of the encoder, and increase deviation measurement tools for obtaining optical motion parameters of the machine body.

Circuit board



Height Controller



- Large cooling capacity, stable performance, trouble-free, clean water quality, good heat exchange effect with fiber laser, and linkage signal to protect the laser

Water Cooling System



Automatic Lubrication System

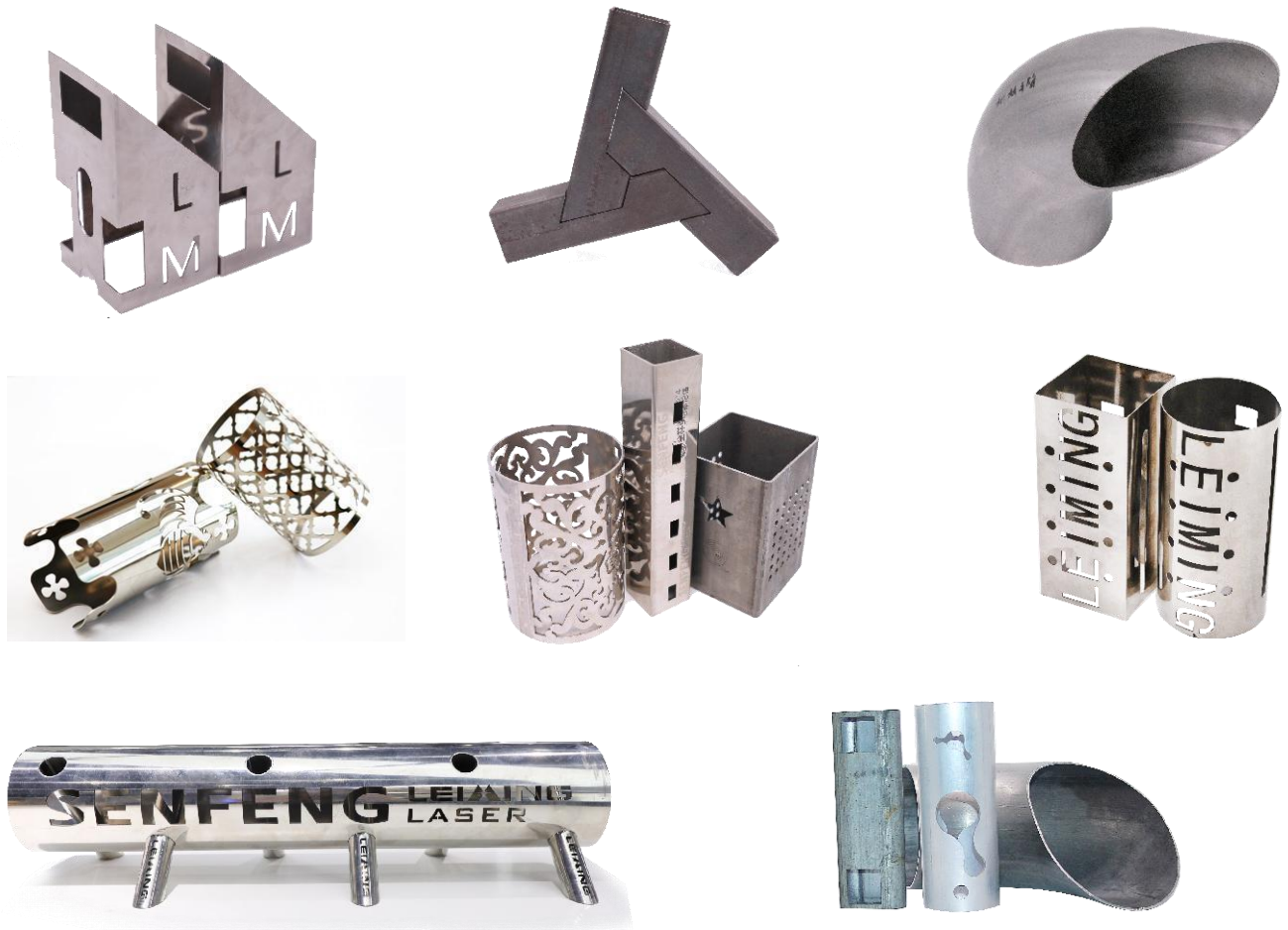


- Lubricating the guide rails of X axis, Y axis, Z axis automatically, which could reduce maintenance cost and save time significantly.
- Oiling time can be adjusted according to processing amount, which is more humanized.

V.Cutting Capability and Application

Cutting Materials

carbon steel,
 stainless steel,
 aluminum alloy,
 galvanized sheet,
 titanium alloy,
 manganese
 alloy,
 brass,
 etc.



Application Industry



Metal tube processing



Auto parts
manufacturing



Elevator manufacturing



Mechanical processing

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Cutting | Cladding | Cleaning | Welding | Bending | Automation



Decorative advertisements

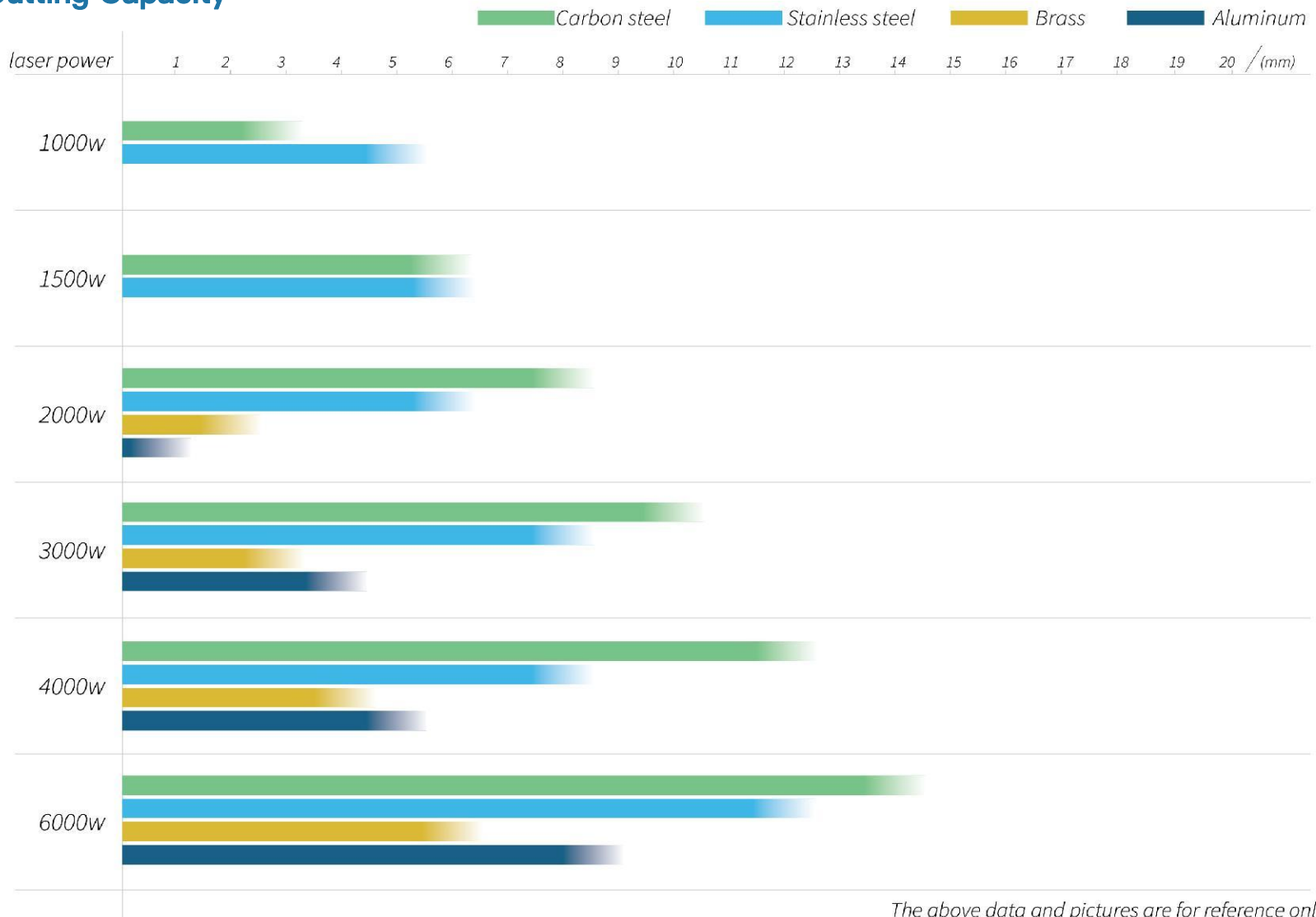


Food machinery,



Petroleum machinery

Cutting Capacity



The above data and pictures are for reference only

Cutting Thickness

Material	Thickness (MM)	Cutting Speed (m/min)					
		1000W	1500W	2000W	3000W (gas)	4000W	6000W
Carbon Steel	1	9—11	10—13	13—15	20—25	20—25	20—25
	2	3.0—4.2	4.8—5.5	4.2—4.8	7—10	13—17	13—17
	3	2.2—3	3.5—4	4.1—4.5	4.5—5	7—9	7—9
	4	/	2.4—3	3.1—3.5	3.5—4	3.5—4	3.5—4
	5	/	1.7—2	1.7—2	3.0—3.2	3.0—3.2	3.0—3.2
	6	/	1.5—1.8	1.6—1.9	2—2.5	2—2.5	2—2.5
	8	/	/	1.5—1.7	1.8—2.2	2—2.3	2—2.3
	10	/	/	/	20—25	1.8—2.2	1.8—2.2
	12	/	/	/	/	0.9—1.2	0.9—1.2
	14	/	/	/	/	/	0.8
Stainless Steel	1	12—14	15—18	18—20	20—25	20—25	20—25
	2	3.5—4	6—7	8—9	10—12	12—18	16—20
	3	1.5—2	2.5—3	4.1—4.5	5—6	8—10	12—18
	4	0.8—1.1	1.3—1.7	2.1—2.5	4—5	5—7	9—12
	5	0.4—0.6	0.8—1.1	1.7—2	3—4	4—5	7—9
	6	/	0.3—0.6	0.6—1	2—3	3—4	4.5—6
	8	/	/	/	1	2—3	2.5—3.5
	10	/	/	/	/	/	1.2—2
	12	/	/	/	/	/	1—1.5
	14	/	/	/	/	/	/
Brass	1	/	/	18—20	20—25	20—25	20—25
	2	/	/	8—9	10—12	12—18	16—20
	3	/	/	/	5—6	8—10	12—18
	4	/	/	/	/	5—7	9—12
	5	/	/	/	/	/	7—9
	6	/	/	/	/	/	4.5—6
	8	/	/	/	/	/	/
Aluminum	1	/	/	10—15	15—20	15—22	20—25
	2	/	/	/	12—14	16—20	16—20
	3	/	/	/	5—7	10—13	10—13
	4	/	/	/	4—5	5—7	6—8
	5	/	/	/	/	3.5—5	4—6
	6	/	/	/	/	/	3—4
	8	/	/	/	/	/	2—2.5

Note: As gas purity, on-site voltage and current, plate type and operator expertise are different, the cutting parameters above are only for your reference.

VI.Cost

Mode		1500W			2000W			3000W			4000W			6000W		
		Air compress	O2	N2	Air compress	O2	N2	Air compress	O2	N2	Air compress	O2	N2	Air compress	O2	N2
Electricity Consumption	Laser Device	5.5KW			6.1KW			10KW			12.6KW			18.5KW		
	Chiller power	2.5KW			3KW			3.5KW			5KW			8.4KW		
	Air Compressor Power	22KW	/	/	22KW	/	/	22KW	/	/	22KW	/	/	22KW	/	/
	Main Body	37.1KW														
	Dust Exhausting Equipment	11KW														
	Feeding	15KW														
Gas Consumption	RMB/H	0.5	4.5	60.5	0.5	4.5	60.5	0.5	4.5	60.5	0.5	4.5	60.5	0.5	4.5	60.5
	USD/H(1USD ≈ 6.4479RMB)	0.077	0.698	9.383	0.077	0.698	9.383	0.077	0.698	9.383	0.077	0.698	9.383	0.077	0.67	9.38
Total Power (KW)		93.1	71.1	71.1	94.6	72.6	72.6	98.6	76.6	76.6	102.6	80.6	80.6	112	90	90
Total Power Consumption(KW/H)		55.9	42.7	42.7	56.8	43.6	43.6	59.2	46	46	61.6	48.4	48.4	67.2	54	54
Total Operation Cost(RMB)1RMB/KW/H		56.4	47.2	103	57.3	48.4	104	59.7	50.5	106	62.1	52.9	109	67.7	58.5	115
Total Operation Cost(USD)		8.75	7.32	16	8.89	7.51	16.1	8.98	7.83	16.4	9.63	8.2	16.9	10.5	9.07	17.8

VII. Bed body processing process



01 Metal Cutting

The raw materials for machine bed welding are all cut by laser.



02 Machine Bed Welding

Machine bed welding adapts mixed gas (80% argon 20% carbon dioxide) which can better ensure the formation, firmness and smoothness of the welding, to improve the overall quality of the bed.



03 Natural Aging Treatment

The bed will be placed outdoors for 1 to 6 months after welding, under the overload caused by thermal stress, the residual stress is relaxed and the dimensional accuracy is stabilized.



04 Heat Treatment

It takes about 24 hours for the overall heat treatment of a bed, achieving the purpose of eliminating residual stress, stabilizing size, reducing deformation and cracks, making our bed more durable and longer in service life.



05 Shot Blasting

It can clear the excess rust layer, oxide skin and oil stains on the bed, which can greatly improve the cleaning efficiency and strengthen the surface quality of the bed.



06 Spray

We adopt automatic process, which is safe and stable, and efficient; the high temperature paint baking room can heat up quickly, dry quickly, and make the surface of the bed smooth and without impurities.



07 Machining

The final finishing of the bed and beam can completely eliminate the stress caused by welding and processing, ensuring the stability and high precision of the bed, which will run for a long time without deformation.



08 Accuracy Detection

We use CMM and other instruments to test the accuracy of the bed.

VIII.Product Certification

Senfeng fiber laser machines have passed CE from TÜV,ROHS,FDA,ETL certificates, which is in line with European and American standards.



IX .5 Star Service



High efficiency

24 hours a day (mainly for international), 7 days a week, 365 days a year at any time to receive repair calls;

Within 10 minutes, technical engineers will consult, fix maintenance plan in one hour, and send engineers in one working day.



After-sale service

The seller provides one time free installation and training in buyer's factory. Seller pays for the airplane tickets and salary for engineers, buyer should provide accommodation and food to engineers.

The seller will provide technical guide's e-mail, telephone, WeChat, WhatsApp and so on.

The seller should pay for the travel expense if local service needed within warranty time.



Warranty

The warranty of laser source is 2 years.

The warranty of the machine is 2 years (main spare parts) ,except for the consumable parts such as ceramic ring, focus lens, nozzle etc. Warranty counts from the date marked on the label of the laser source and machine.

Except the damage artificially, seller is responsible for offering the fittings free of charge during the warranty period.

Exceeding the warranty period, parts need to be repaired or changed, shall be paid.



Worry-free

Pre-sale service: theoretical + practical operation training, self-diagnosis training for common faults, guidance for quick repair of difficult faults, and warning of matters needing attention in use;

Regular service: regular maintenance reminder, regular door-to-door service, regular promotional activities;

Value-added services: equipment software and hardware upgrading services, financial leasing services, delayed warranty service.



Field Service

Our branches in United States, Germany, India, Pakistan, Serbia provide localized services and technical support for global customers.

Service Oriented and Customer First



X.Customer Testimonials



XI.Trade show



*SENFENG
LASER*



XII. Company Strength



About us



Senfeng Laser is a leading manufacturer engaged in the research, development, Production, sale and service of fiber laser cutters, fiber laser cleaning machine, laser marking machine, laser welding machine ,3D robot, press brake bending machine, metal sander, etc.



XIII.Product Line

Fully Enclosed Metal Sheet Cutter

SF3015H

Fourth Generation Metal Fiber Laser Cutter



SF1530G

Security Protective Fiber Laser Cutter



Automatic Laser Cutting Production Line



Metal Sheet Cutting Machine

SF3015G

Open Type Metal Sheet Laser Cutting Machine



SF20040R

Ultra Large Metal Laser Cutter

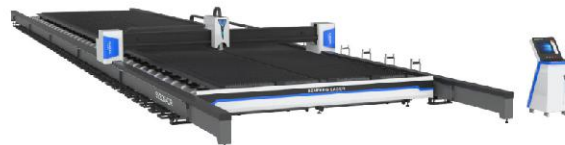


Plate And Tube Cutting Machine

SF3015HM

Full Protection Steel Sheet and Tube Laser Cutter



Tube Laser Cutting Machine

SF6020GT

Bevel Tube Laser Cutting Machine



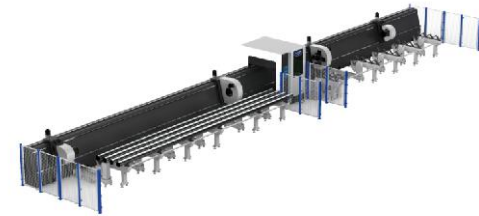
SF6020TZ

Affordable metal tube laser cutter



SF12038HT

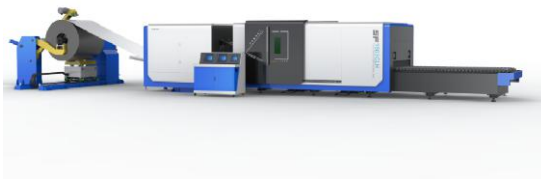
Ultra Heavy Four-chuck Tube Laser Cutting Machine



Coil Fed Laser Cutting System

SF1503CLH

Aluminum Coil-fed Laser Cutting Machine



SF2014CH

Heavy-load coil laser cutting machine



SF1503CH

Coiled Fiber Laser cutting machine



Fiber Laser Welding Machine / Fiber Laser Cleaning Machine

SF1500HWM

Handheld Fiber Laser Welding Machine



SF200HC

Fiber Laser Cleaning Machine



SF1500HC

Portable laser cleaning machine



3D Robot

3D Robot Laser System



3D Robot Fiber Laser Cutting Machine



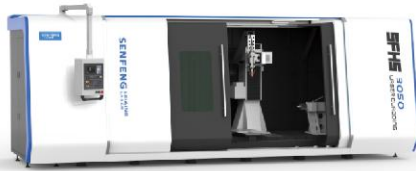
3D robot fiber laser welding machine



Laser Cladding Equipment

SFHS3050

Metal additive machine



SFR6063

Robot Laser Cladding Machine



SFMR02

Mobile Robot Laser Cladding System



Metal sheet bending machine

BDE13032

CNC Bending Machine



BDC-1800

Servo Electric Press Brake



Wide Belt Sheet Metal Sander

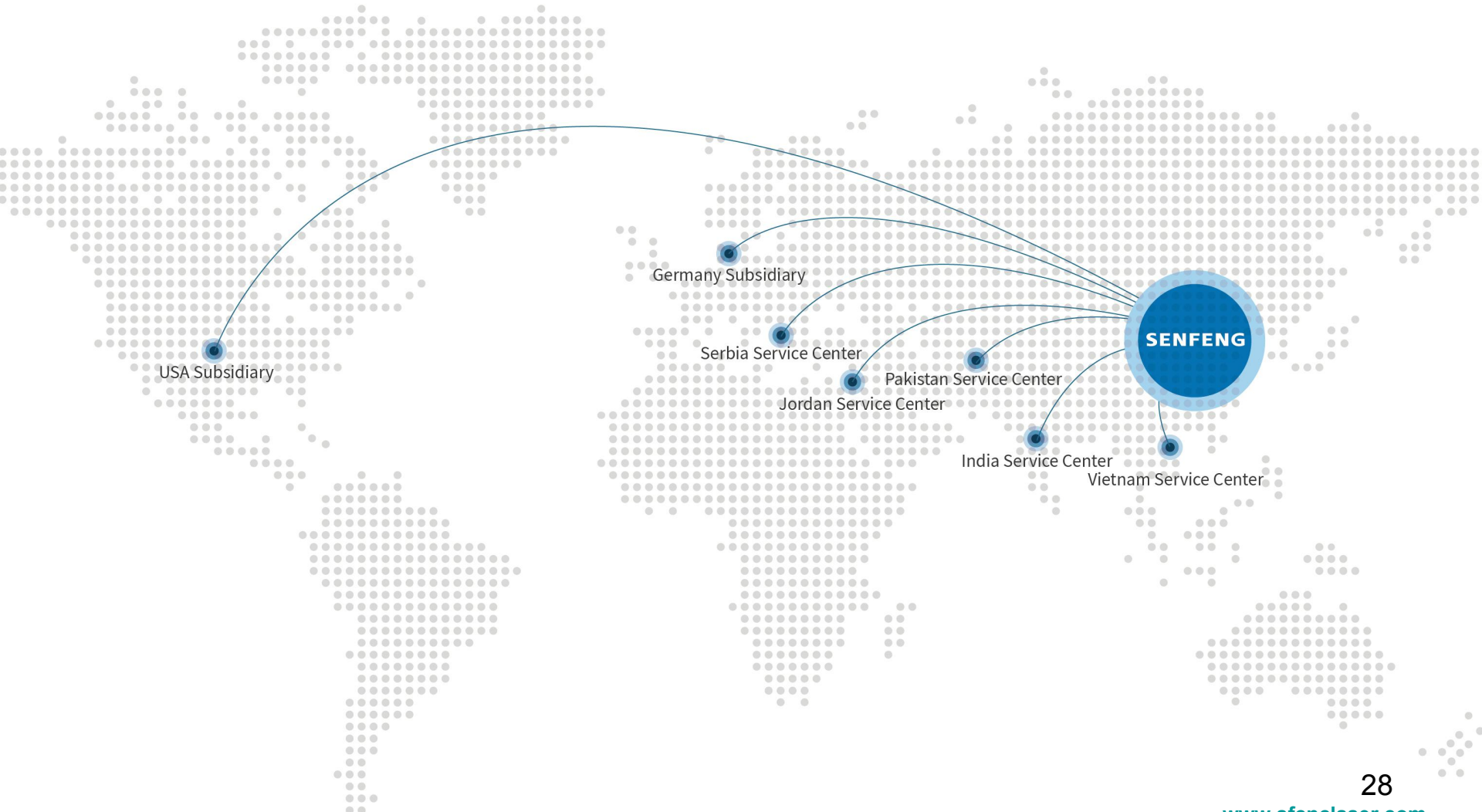
SF1000SSD

Automatic Wide Belt Sheet Metal Sander



XIV.Global Layout

Senfeng Laser to provide localized services and technical support for global customers.



XV.Core Technology

Senfeng laser generators which are independently developed have been widely used in laser cutting, welding, cleaning, cladding additive and other fields



- Auto Focus
Operator can set consequent focus adjustment by procedure, finishing quick piercing to thick plates and cutting different thickness plates automatically.
- Storm cut
Storm cut technology with ultra high power laser source, with SENFENG cutting technology, realizing high speed
- Water cooling
Focusing parts of laser cutting head with water cooling, reducing high temperature and flog by long time cutting.
- Bright Cut Technology
Bright Cut Technology developed by SENFENG LASER can efficiently solve: too much burr, cutting surface not smoothly, difficult to cut high-reflect material etc.



More details about senfeng R&D, feel free to visit website: www.sfcnclaser.com

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